Remarks/Arguments:

This is a reply to the office action of April 15.

Claims 26 - 45 and 57 - 60 stand rejected as obvious over Lee (Patent 6786954).

Non-elected claims 45 - 56 are canceled above without prejudice to the filing of a divisional application.

We respectfully submit that Lee does not render obvious the subject matter of the remaining claims, for the following reasons.

The examiner has acknowledged that the specific combination of colorants of the current main claim (26) is not disclosed in Lee. Therefore, the decisive question would appear to be whether there was a motivation for a skilled person to modify the teaching of Lee in order to arrive at the subject matter of the present invention. We respectfully submit that there would have been no such motivation.

Lee discloses a security element which comprises a mixture of at least two dyes or pigments, at least one of which must be luminescent. The luminescent dye or pigment absorbs light of a first wavelength and reemits some of said absorbed light in a second wavelength range.

Lee's invention is based on the fact that his mixture of dyes or pigments provides a spectral response which deviates from a spectral response that would be predicted by linearly additively combining the respective spectral responses. Such an unpredictable result may occur, for example, if a reaction between the different dyes or pigments takes place.

Lee detects a spectral response when the security feature is illuminated in a narrow wavelength band. The spectral response is the spectrally integrated overall intensity which comes back from the security feature, i.e., the sum of the reflected intensity in the narrow wavelength band and of the emitted light energy in the whole sensitivity range of a silicon photodetector. In other words, the spectral response is assessed as a function of the illumination wavelength. In such a case, the absorption bands of a second, non-luminescent dye or pigment may spectrally hide the absorption bands of a first, luminescent dye or pigment, and thus partly or totally prevent the reemission of light in the second wavelength range. This is the non-linear effect referred to in Lee.

Lee's detection method is totally different from the hyperchromic color system authentication method of the present invention. The colorants recited in claim 26, that is:

> a) at least one dye or pigment having at least one absorption maximum in the visible range of the electromagnetic spectrum which is substantially different from the absorption maxima of the base colors of the CIEXYZ system, and
>
> b) at least one other dye or pigment having an absorption band in the visible range of the electromagnetic spectrum whose band width at half intensity is narrower than 2400 cm^{-1}, and
>
> c) at least one other dye or pigment having at least one absorption maximum in the ultraviolet or in the infrared region

were deliberately selected in order to establish a hyperchromic color system as defined in the present application.

Lee purposely chose his colorants in order to meet the criteria of his authentication method. Those criteria are totally different from the criteria of the present invention. We submit that one would not have arrived at the present invention when starting from Lee, which does not provide any motivation for the skilled person to modify the teaching of Lee in such a way as to arrive at the subject matter of the present invention.

As mentioned above, an essential part of the spectral response of Lee's method is based on reemission of light from the colorants used by Lee. On the other hand, the present invention is entirely based on absorption characteristics. Lee does not provide any disclosure or suggestion to depart from the standard absorption maxima of the conventional CIEXYZ color space, or to use colorants having narrow band width absorption maxima. Nor does Lee does refer to absorption features as an essential component.

The detection method of Lee only works when using the special equipment of Lee. If one uses standard colorimetric methods such as in the present application, where the sample is homogenously illuminated over a broad range of wavelengths and the absorption characteristics of the security element are detected, the essential reemission characteristics of Lee can be neglected.

For the above reasons, we believe that claim 26, and the other claims presented (all of which ultimately depend from claim 26) are patentable over the prior art of record, and that this application is now in condition for allowance.

Respectfully submitted,

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